



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,593	09/16/2003	Michael A. Centanni	ST8012US	3283

22203 7590 07/06/2005

KUSNER & JAFFE  
HIGHLAND PLACE SUITE 310  
6151 WILSON MILLS ROAD  
HIGHLAND HEIGHTS, OH 44143

EXAMINER
----------

MCKANE, ELIZABETH L

ART UNIT	PAPER NUMBER
----------	--------------

1744

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/663,593

Applicant(s)

CENTANNI ET AL.

Examiner

Leigh McKane

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-14, 16-29 and 31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 11-14, 17-20 and 22-29 is/are rejected.
- 7) ☒ Claim(s) 3-6, 16, 21 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 010305
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by May et al (U.S. Patent No. 6,196,052).

May et al teaches a piezoelectric (quartz) gas sensor **154** for gases coated with an element from Groups III-VII and having electrodes **158,156**. The sensor is coated with a metal, which may be in an oxide form for those gases from Group VI. Suitable metals for Group VI include Ag and Mn. Note that H<sub>2</sub>O<sub>2</sub> contains a Group VI element, oxygen. See col.7, line 6 to col.8, line 30. The claimed intended use of the device does not structurally distinguish the present claims from the invention of May et al. However, note that the sensor of May et al is capable of detecting hydrogen peroxide through the reaction of peroxide with the metal oxide to form water, oxygen, and the elemental metal.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1744

4. Claims 17, 23, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al in view of Stemmler (US 2002/0132279).

May et al teaches a method of determining the presence of a gas, such as chlorine, wherein a piezoelectric (quartz) having a layer of a metal oxide thereon produces a metal/gas interaction product on the surface of the sensor, changing the mass of the sensor and thus the frequency of the piezoelectric. See col.4, lines 53-63 and col.7, line 63. May et al does not teach the use of the gas sensor within a decontamination system. However, Stemmler discloses the use of chlorine gas in the decontamination of mail articles wherein a gas detector is used to detect the presence of sterilant with the decontamination region. See paragraphs [0067] and [0068]. It would have been obvious to one of ordinary skill in the art to employ the chlorine gas detector of May et al in the system of Stemmler as Stemmler fails to disclose a particular type of gas sensor and because the sensor of May et al is sensitive for even low concentrations of gas species.

5. Claims 18-20, 22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over May et al and Stemmler as applied to claims 17 and 23 above, and further in view of Edwards et al (U.S. 6,077,480).

The combination of May et al with Stemmler fails to teach the detection of hydrogen peroxide or the use of hydrogen peroxide as the sterilant. Edwards et al teaches a system for bio-decontamination including a system 10 for moving hydrogen peroxide through a space 32 and a sensor 52 for measuring hydrogen peroxide concentration. It would have been obvious to use hydrogen peroxide as the sterilant of Stemmler, as hydrogen peroxide is disclosed by Edwards et al to be effective at low temperatures and to be extremely safe, breaking down into only water and oxygen. See col.1, lines 18-25. Furthermore, one would have found it obvious to employ

Art Unit: 1744

the gas sensor of May et al to detect hydrogen peroxide because May et al teaches that the gas monitored by the sensor "may be any suitable vapor or gas component(s) such as gases containing Group III-VII elements of the Periodic Table." See col.7, lines 37-40. As hydrogen peroxide falls within this category and as the metal/metal oxides disclosed by May et al are intrinsically capable of reacting with hydrogen peroxide, it would have been obvious to one of ordinary skill in the art to use the gas sensor of May et al for the detection of hydrogen peroxide.

6. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over May et al, Stemmler, and Edwards et al as applied to claim 28 above, and further in view of Schönfeld et al.

The combination *supra* fails to teach the resonant frequency of quartz. Regardless, Schönfeld et al discloses that piezoelectric crystals generally have a fundamental oscillation of 0.1 to 30 MHz. Therefore, it would have been obvious that the quartz of May et al would have fallen within this range.

#### ***Allowable Subject Matter***

7. Claims 3-6, 16, 21, and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 7-9 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter and the reasons for allowance: The prior art of record fails to teach a piezoelectric having *a coating of lead dioxide*.

Art Unit: 1744

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

10. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

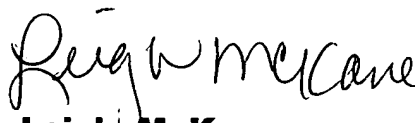
### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leigh McKane whose telephone number is 571-272-1275. The examiner can normally be reached on Monday-Wednesday (7:15 am-4:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**Leigh McKane**  
**Primary Examiner**  
**Art Unit 1744**

elm  
29 June 2005